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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,055	06/27/2003	Randy J. Aksamit	884.901US1	7893
21186	7590	07/28/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			WELLS, KENNETH B	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/608,055

Applicant(s)

AKSAMIT, RANDY J.

Examiner

Kenneth B. Wells

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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1. Applicant's amendment filed on 6/6/06 has been received and entered in the case.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The drawings are objected to because in Figs. 2 and 3, the word "SUPPLEMENTAL" is misspelled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Claims 1-7, 9-23, 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear where the leakage current flows to/from. Claim 1 has been amended to recite that the leakage current is "of" the data-retention subcircuits, which is vague and indefinite. In the art of semiconductor IC circuits, leakage current is generally understood to mean a current flowing through a path that is intended to be cut off. For example, in instant Fig. 4, a leakage current may flow through FET 432 when it is in the off state, if certain (adverse) conditions exist. In the presently amended claims, on the other hand, applicant is now reciting a leakage current "of the data-retention

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subcircuits" which makes no sense, i.e., applicant should amend the claims to clearly define where the leakage current flows from/to (to define the path of the leakage current). This problem is exacerbated by the further language in the claims that the leakage current of the data-retention subcircuits is drawn through a well tap from a supplemental voltage supply. This, too, makes no sense, because any leakage current of the data-retention subcircuits would not flow "from the supplemental voltage supply" through the well tap 538. It also makes no sense to recite that the well tap "comprises" a conductive path, i.e., a tap is just a node and a node cannot comprise (include) a path. It also appears that "resistive well of a semiconductor die" in claim 1 should be changed to read "a resistive well of the supply-switching subcircuit" (as best understood by the examiner). Finally in claim 1, "to draw the leakage current" is indefinite as well, i.e., draw it where? From where? Note the same problem occurs throughout the claims. For example, claim 7 recites that the leakage current is "drawn by" the data-retention subcircuits, whereas claim 1 recites that the leakage current is "of" the data-retention subcircuits.

In claim 2, "outside a data path operable when voltage

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from the regular voltage supply is present" is vague and indefinite as well, i.e., what is meant by "outside a data path operable"?

Claim 3 is indefinite because it is internally inconsistent, i.e., the claim recites both that the data-retention subcircuits "comprise" semiconductor devices, and also that the semiconductor devices "comprise" the data-retention subcircuits. It therefore cannot be determined what the relationship is between the data-retention subcircuits and the semiconductor devices, i.e., which includes the other?

As noted above, all claims have the same problem regarding the definition of the current leakage of/from/by the data-retention subcircuits/the supply-switching subcircuit/supplemental voltage supply. All claims should therefore be corrected in response to this office action so as to clearly define the feature of the leakage current (since this is apparently a critical feature of the invention necessary to distinguish the claims over the prior art of record).

5. Claims 1, 3, 7, 12, 14 and 20-22, to the extent understood, are rejected under 35 U.S.C. 103(a) as being

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unpatentable over either Stan et al or Ooishi '433 in view of any one of Levinson, Notani et al, Ooishi '576, Mulatti et al and Bhavnagarwala et al.

See paragraph six of the previous office action for the details of this rejection.

6. Claims 1, 3, 7, 12, 14 and 20-22, to the extent understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over either Stan et al or Ooishi '433 in view of any one of Levinson, Notani et al, Ooishi '576, Mulatti et al and Bhavnagarwala et al, as applied to claims 1, 3, 7, 12, 14 and 20-22 above, and further in view of Ogawa.

See paragraph seven of the previous office action for the details of this rejection.

7. Claims 27 and 28 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 11 and 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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8. Applicant's arguments filed on 6/6/06 have been fully considered but they are not persuasive.

The argument that none of the references of record discloses or suggests the use of leakage current to retain state during standby mode is not persuasive because each of the above-noted references relates to data-retention semiconductor latches with standby modes which inherently have leakage current when in their cutoff states. The arguments concerning the well-tap for allowing leakage current to flow from a resistive well are not persuasive because this limitation is vague and indefinite, as noted above, and cannot be understood, and therefore cannot be relied upon to define over the applied prior art. The argument concerning decoupling the data-retention devices from a regular voltage supply during standby mode is not persuasive because this is clearly taught by the above-noted references (see paragraphs six and seven of the previous office action for the details thereof). The final argument, that the leakage current in the instant invention "may be small enough so that a slight voltage drop across the resistive well would not affect the ability of the data-retention devices to retain their state" is not persuasive because its relevance to the above-noted

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rejections is not at all understood by the examiner.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Wells whose telephone number is (571)272-1757. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached at (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth B. Wells  
Primary Examiner  
Art Unit 2816

July 21, 2006